



Docket No. 50634-BA/JPW/AJM/JCS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Eric Rose et al.
Serial No. : 10/646,493
Filed : August 21, 2003
For : METHODS FOR INHIBITING THROMBOSIS IN A PATIENT
WHOSE BLOOD IS SUBJECT TO EXTRACORPOREAL
CIRCULATION

1185 Avenue of the Americas
New York, New York 10036
November 19, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

INFORMATION DISCLOSURE STATEMENT

In accordance with their duty of disclosure under 37 C.F.R. §1.56, applicants would like to direct the Examiner's attention to the following documents, which are listed on Form PTO-1449 and are also listed below. Copies of documents 1-14 were previously submitted in connection with copending U.S. Serial No. 09/053,872, filed April 1, 1998, a continuation-in-part of U.S. Serial No. 08/648,561, now U.S. Patent 5,839,443, issued November 24, 1998. The documents listed herebelow as items 1-16 are again listed on Form PTO-1449 which is attached hereto as **Exhibit 1**.

1. Bazan, J.F., "Big rigs in blood coagulation," Nature 380: 21-23, 03/1996;
2. Benedict, C.R. et al., "Active site-blocked factor IXa

Applicants: Eric Rose, et al.
Serial No.: 10/646,493
Filed: August 21, 2003
Page 2

prevents intravascular thrombus formation in the coronary vasculature without inhibiting extravascular coagulation in a canine thrombosis model," J. Clin. Invest., 88: 1760-1765, 1991;

3. Benedict, C.R. et al., "Endothelial-Dependent Procoagulant and Anticoagulant Mechanisms," Texas Heart Institute Journal, 21: 86-90, 1994;
4. Berntorp, E., "Biochemical and in vivo properties of high purity factor IX concentrates," Thrombosis and Haemostasis 70(5): 768-773, 11/1993;
5. Freedman, S.J. et al., "Structure of the metal-free γ -carboxyglutamate acid-rich membrane binding region of factor IX by two-dimensional NMR spectroscopy," J. Biol. Chem., 270(14): 7980-7987, 04/1995;
6. Furie, B.C. and Furie, B., "Biosynthesis of factor IX: implications for gene therapy," Thrombosis and Haemostasis, 74(1): 274-277 (1995);
7. Iberti, T.J. et al., "Abnormal coagulation profile in brain tumor patients during surgery," Neurosurgery, 34(3): 389-395, 03/1994;
8. Kirchhofer, et al., "Active site-blocked factors VIIa and IXa differentially inhibit fibrin formation in a human *ex vivo*

Applicants: Eric Rose, et al.
Serial No.: 10/646,493
Filed: August 21, 2003
Page 3

thrombosis model," Arterioscler. Thromb. Vasc. Biol., 15: 1098-1106 (1995);

9. Kuwabara, K. et al., "Calreticulin, an antithrombotic agent which binds to vitamin K-dependent coagulation factors, stimulates endothelial nitric oxide production, and limits thrombosis in canine coronary arteries," J. Biol. Chem., 270(14): 8179-8187, 04/1995;
10. Miyata, T. et al., "Factor IX Bm Kiryu: a Val-313-to-Asp substitution in the catalytic domain results in loss of function due to a conformational change of the surface loop: evidence obtained by chimeric modeling," Brit. J. Of Haematol., 88(1): 156-165, 09/1994;
11. Santagostino, E. et al., "Markers of hyper coagulability in patients with hemophilia B given repeated, large doses of factor IX concentrates during and after surgery," Thrombosis and Haemostasis, 71(6): 737-40, 06/1994;
12. Wacey, A.I. et al., "Determinants of the factor IX mutational spectrum in hemophilia B: an analysis of missense mutations using a multi-domain molecular model of the activated protein," Hum. Genet., 94(6): 594-609, 12/1994;
13. Warrier, I. et al., "Safety of high doses of a monoclonal antibody-purified factor IX concentrate, Am. J. Of Hematol., 49(1): 92-94, 05/1995;

Applicants: Eric Rose, et al.
Serial No.: 10/646,493
Filed: August 21, 2003
Page 4

14. Wong, A.G. et al., "Relative efficacy of active site-blocked factors IXa Xa in a model of venous thrombosis," Supplement I Circulation, Abstract # 3293 p. I-686, Vol. 92, No. 8. 10/1995;
15. Rose, E. et al., U.S. Serial No. 09/053,872, filed April 1, 1998 (**Exhibit 2**); and
16. Rose, E. et al., U.S. Patent No. 5,839,443, issued November 24, 1998 (**Exhibit 3**).

Applicants request that the Examiner review the references and make them of record in the subject application.

Applicants: Eric Rose, et al.
Serial No.: 10/646,493
Filed: August 21, 2003
Page 5

No fee is deemed necessary in connection with the filing of this Information Disclosure Statement. If any such fee is required, authorization is hereby given to charge the amount of such fee to Deposit Account No. 03-3125.

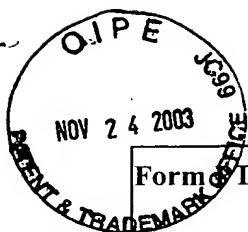
Respectfully submitted,

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

11/18/03

Alan J. Morrison Date
Registration No. 37,399

John P. White
Registration No. 28,678
Alan J. Morrison
Registration No. 37,399
Attorneys for Applicants
Cooper & Dunham LLP
1185 Avenue of the Americas
New York, New York 10036
Tel. No. (212) 278-0400



Sheet 1 of 2

Form TO-1449

**U.S. Department of Commerce
Patent and Trademark Office**
**INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)**

Atty. Docket No. 50634-BA	Serial No. 10/646,493
Applicants Eric Rose et al.	
Filing Date August 21, 2003	Group

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	US 5,839,443	Nov. 24, 1998	Eric Rose, et al.			
	US 09/053,872		Eric Rose, et al.			April 1, 1998

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation
						Yes
						No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Bazan, J.F., "Big rigs in blood coagulation," <u>Nature</u> 380: 21-23, 03/1996
	Benedict, C.R. et al., "Active site-blocked factor IXa prevents intravascular thrombus formation in the coronary vasculature without inhibiting extravascular coagulation in a canine thrombosis model," <u>J. Clin. Invest.</u> , 88: 1760-1765, 1991.
	Benedict, C.R. et al., "Endothelial-Dependent Procoagulant and Anticoagulant Mechanisms," <u>Texas Heart Institute Journal</u> , 21: 86-90, 1994
	Berntorp, E., "Biochemical and in vivo properties of high purity factor IX concentrates," <u>Thrombosis and Haemostasis</u> 70(5): 768-773, 11/1993
	Freedman, S.J. et al., "Structure of the metal-free γ-carboxyglutamate acid-rich membrane binding region of factor IX by two-dimensional NMR spectroscopy," <u>J. Biol. Chem.</u> , 270(14): 7980-7987, 04/1995
	Furie, B.C. and Furie, B., "Biosynthesis of factor IX: implications for gene therapy," <u>Thrombosis and Haemostasis</u> , 74(1): 274-277 (1995)
	Iberti, T.J. et al., "Abnormal coagulation profile in brain tumor patients during surgery," <u>Neurosurgery</u> , 34(3): 389-395, 03/1994
	Kirchhofer, et al., "Active site-blocked factors VIIa and IXa differentially inhibit fibrin formation in a human ex vivo thrombosis model," <u>Arterioscler. Thromb. Vasc. Biol.</u> , 15: 1098-1106 (1995)

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Sheet 2 of 2

Form PTO-1449

**U.S. Department of Commerce
Patent and Trademark Office**

Atty. Docket No.
50634-BA

Serial No.
10/646,493

**INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)**

Applicants
Eric Rose et al.

Filing Date
August 21, 2003

Group

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate	

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Kuwabara, K. et al., "Calreticulin, an antithrombotic agent which binds to vitamin K-dependent coagulation factors, stimulates endothelial nitric oxide production, and limits thrombosis in canine coronary arteries," <u>J. Biol. Chem.</u> , 270(14) : 8179-8187, 04/1995
	Miyata, T. et al., "Factor IX Bm Kiryu: a Val-313-to-Asp substitution in the catalytic domain results in loss of function due to a conformational change of the surface loop: evidence obtained by chimeric modeling," <u>Brit. J. Of Haematol.</u> , 88(1) : 156-165, 09/1994
	Santagostino, E. et al., "Markers of hyper coagulability in patients with hemophilia B given repeated, large doses of factor IX concentrates during and after surgery," <u>Thrombosis and Haemostasis</u> , 71(6) : 737-40, 06/1994
	Wacey, A.I. et al., "Determinants of the factor IX mutational spectrum in hemophilia B: an analysis of missense mutations using a multi-domain molecular model of the activated protein," <u>Hum. Genet.</u> , 94(6) : 594-609, 12/1994
	Warrier, I. et al., "Safety of high doses of a monoclonal antibody-purified factor IX concentrate, <u>Am. J. Of Hematol.</u> , 49(1) : 92-94, 05/1995
	Wong, A.G. et al., "Relative efficacy of active site-blocked factors IXa Xa in a model of venous thrombosis," <u>Supplement I Circulation, Abstract # 3293 p. I-686</u> , Vol. 92, No. 8. 10/1995

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.